"SOME OBSERVATIONS UPON THE HOUSING CONDITIONS
IN THE COLLIERY DISTRICTS OF NORTHUMBERLAND FROM
THE STANDPOINT OF THE MEDICAL OFFICER OF HEALTH".

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James Anderson., M.A. M.B. C.M. Edin. B.Hy. Dunelm.
Medical Officer of Health for the Urban District of
C R A M L I N G T O N. Northumberland.

Some observations on the housing conditions in the Colliery Districts of Northumberland from the standpoint of the Medical Officer of Health.

The problem of housing, as it affects the Health Administrator, is an almost perennial one. There are few conditions existing, either in relation to the aetiological factor in disease or to social unrest, which, particularly at the present day, may not be, or have not been, attributed to bad housing, and although much has been done in the past to remedy conditions admittedly bad, it must be confessed that even during the period of greatest activity the problem has never been approached with that thoroughness which the circumstances demanded. The subject cannot be separated from an atmosphere of politics, both local and national, in the widest sense of the word, and a variety of circumstances, in the main financial, seems to have influenced the action of all those who have had the matter under consideration whether from a private, local or national standpoint.

It does not seem to have been sufficiently appreciated how far-reaching and vital is the problem, even affecting as it does the moral fibre of the nation. At the present moment it has been further complicated by the aftermath of the Great War and still further influenced again by state intervention and subsidy, which has probably had a very far-reaching effect in developing modern conceptions and ideals but, at the same time, exercising an inimical influence by appealing to the cupidity and

commercialism of companies and private individuals engaged in the building trade.

The following remarks are offered as an epitome of thirty years experience in practice in a typical colliery district in Northumberland.

One factor, and one factor alone, has influenced the problem in the county of Northumberland from the earliest days of the coal industry. Local historians tell us that King John, in the years between 1199 and 1216, conferred many favours upon Newcastle during his frequent sojourns there and, as the first license to dig coal dates back to his reign, this vast industry of the northern counties may be regarded as the outcome of royal concessions 700 years ago.

In its development and with the discovery and working of fresh pits and seams, an industrial population was required to win the coal and, in order to induce a stable population from which to recruit the necessary labour, housing settlements and villages had to be provided; in the earliest days of the industry therefore it will be seen that this accommodation, whatever its nature, had to be initiated by those persons interested financially in the working of the pits. It thus became an essential for the satisfactory development of an estate that, if a regular supply of labour was to be forthcoming, a man working in the mines should be provided with housing accommodation sufficiently near to his work to be convenient and to induce him to settle with his family in the district.

Thus, eventually it came to be recognised and held

out as an inducement to such a man that, conditional upon his accepting service in the mines, he would be entitled to a free house. This "free" house has been from the earliest times, and still remains, the most potent influence in the history, and on the general policy, of housing conditions as they exist in the two counties of Northumberland and Durham.

On superficial examination it would appear that what is known as the "free" house system is nothing either more or less than the outcome of sheer necessity. This is probably the true explanation. It has, however, been stated that it is a relic of the Feudal System under which it was customary for the "Lords of the soil to provide dwellings for their dependants". It may even be that it is a relic of the Bond System under which, until comparatively recent times, the miner was considered a serf bound to the soil. It is a curious fact, however, that the "free" house system does not exist in any other colliery district of this country.

Whatever its origin, it remains a fact today that a miner who is a married man becomes entitled either to a house free of all rent and charges or to a daily allowance amounting at the present moment to 10d. per day for each day worked and for those days on which he is absent from work through sickness as certified by his medical attendant. Should the man be absent from work from any other cause he does not receive this daily allowance. This rule is very rigidly observed but, under certain exceptional circumstances, it may be relaxed. Thus, if a miner with

four or five working unmarried sons dies, for the sake of the labour involved the house may, at the option of the employer, be granted to the eldest son.

A moment's reflection will indicate what is the ultimate effect of this system. Whilst this will be dealt with more fully in the summary of conclusions, it may here be briefly stated that there is an intense keenness amongst miners for possession of a "free" house and that the rent allowance which is granted in lieu of the same to those men for whom there is no provision is not regarded as anything like compensation. A single man enjoys no such privileges as these.

From the above remarks it must not be inferred that the whole of the dwellings in the colliery areas of this county are the property of the employers. In the course of development it was found that more and more houses were required and the need was met by the Colliery Companies building additional houses or buying up local property or by the intervention of the speculative builder who provided what are known locally as "rented" houses, so that in the following remarks the term "free" house is used with regard to those houses provided by the employers; the term "rented" house is used to indicate those houses belonging to any other individual for which a weekly rental is paid by the occupier.

Another factor which has indirectly affected the type of building in these areas is, that on the opening up of new seams of coal, houses were very quickly and urgently needed. This is well exemplified by the fact that in

various portions of the county streets of wooden dwellings, fashioned very largely after the prevalent style, have been erected and are still in use and occupation. (See photographs 16 & 17, pages 52 and 53).

The various types of building.

It may be stated emphatically that, with the exception of the most recently constructed dwellings, the type of house inhabited by the Northumberland miner, particularly the "free" house, is distinctly bad, unhygienic and, in the vast majority of cases, of such a standard as at the present day not to be regarded as reasonably fit for human habitation and not meeting, by a very long way, the requirements of the Housing Acts. It is to be deplored that they have unfortunately served as a type and model for the dwellings built by private individuals although it has to be stated that the latter have, in some slight degree, shown an improvement and provided more amenities than their prototypes, this of course being a necessary accompaniment of business activity. Undoubtedly, in the course of years, improvements have been effected in the "free" houses; in like manner the "rented" house, having to compete with the "free" house, similarly progressed and developed, still keeping a little ahead in respect of the "extras", this of course the result again of competitive stimulation. It may, however, be stated without fear of contradiction that the buildings, with the exception of those erected during the past year or two, are entirely devoid of architectural beauty and revolting to the aesthetic senses, crowded together in long, dull monotonous rows, dreary to behold and never likely to inspire their occupiers with any

suggestion of the beautiful in the creations either of nature or man. It is difficult to imagine anything more repugnant than a colony of these houses situated in a landscape, the most prominent features of which are pit heaps, chimney stacks and colliery workings.

This is well exemplified by the accompanying photograph, No. 1, of Foreman's Row, Seaton Delaval. This street does not take its name as being the residence of colliery officials but from the fact that a public house at one end was, when the row was built, occupied by a woman of this name. This picture indicates the long, dreary sameness so characteristic of colliery streets. Indeed it will be seen that the length of the row extends almost to the extreme angle of perspective vision.

Photographs No. 1, 1a., 1b. and 1c. graphically illustrate these points.

FREE HOUSES.

Generally speaking, there are two types of "free" or colliery houses:-

(1) "Single" houses.

(2) "Double" houses.

Single Houses.

The original type of "single" house consisted of one room on the ground floor used as a kitchen and living room, and one bedroom on the first floor, reached from the kitchen by a step ladder opening through a trap door. This type is still in existence.

As time went on, the occupier, owing to his boys and girls growing up, found it necessary to provide more bed-

room accommodation. He accordingly, at his own expense, divided the upstairs room into two by a wooden partition or by means of a curtain or "brattice" cloth. In many cases also he added at the back of his downstairs room a small apartment which acted as a kitchen, leaving the larger room entirely as a living room. This was also done partly at his own expense, the materials being provided by the Colliery Company. In the majority of cases nowadays, the step ladder has been replaced by rough wooden steps boarded at the sides.

The above, which is a typical example of the "single" house, is found modified in certain directions. Originally it was a self contained house with "through ventilation" on the ground floor by means of two doors, one at the front and one at the back. The upstairs room was not capable of "through ventilation" inasmuch as it contained only one window at the front of the house which was always of very small size and reached down to the level of the floor, the eaves of the roof commencing immediately above the level of the top of the window. This constituted practically a garret and in many cases was actually unceiled. Opening by a door from the downstairs room there was a small larder with a very small window.

This type of dwelling was repeated "ad infinitum". Sometimes a small yard, enclosed by a low paling, separated the curtilage of one set of premises from another at the back. The front of these dwellings opened directly either on to the footpath or on to an unpaved road. In the yard, at a later stage, a gully was provided which discharged into a drainage system, the details and course

of which in the course of time have been entirely lost. Indeed at the present day, in a good many cases, nothing is known of this original drainage system. Later still a fresh system was introduced with which all those gullies are connected.

The surface water from unmade streets and pervious pathways is carried by an open channel into this drainage system. The down spouts of these houses discharge, in the majority of cases, directly on to the footpath, part of the water finding its way into the soil through the interstices of the pavement, the remainder passing directly into the open channel at the side of the road. This system of open channel drainage is well shown in photograph No. 15, page 52, of Mortimer Street, Hartford.

The conservancy system of excrement disposal is universally employed in this type of house.

The above constitutes a description of the typical self contained "single" house, the details of which are well seen on the left side of plan No. 1, Wheatridge Row, Seaton Delaval. Various modifications are, however, to be found, each district having certain local peculiarities.

Modifications of the "single" house.

Whilst in many instances these modifications are distinctly of a progressive nature, it has to be borne in mind that in some cases they are of a distinctly retrograde character. The following sub-types may be described:-

(a) Back-to-back houses.

(b) Gallery houses, the upper flat being reached by an outside staircase and gallery.

(c) Converted stables and workshops.

(d) Single storey cottages.

(e) Flats.

(f) Wooden houses.

Back-to-back houses.

These may be described as two rows of "single" houses joined together with the backs facing outwards. As a direct consequence, through ventilation is impossible. Typical examples of these are seen in photographs No. 2 (Camp Terrace, Seaton Delaval), 3 and 4 (north and south sides of High Pit Row, Cramlington).

These houses have a single room below and a bedroom above. The privies will be very well seen in photograph No. 3 (north side of High Pit Row). Attention may be drawn also to the smallness of the upper windows in photographs No. 3 and 4, and to the fact that in some cases a small sky-light has been added to give light to one half of the room which has been divided in consequence of the growth in age of the occupier's family. This is purely an evolutionary process dependent upon the circumstantial needs of the moment.

Gallery houses.

These gallery houses are tenements of one or two rooms on a single flat and are constructed in two storeys, the doors of the upper storey houses opening on to a gallery which is reached by an outside staircase. The ground floor houses open directly, or through a small paled yard, on to the roadway. Through ventilation is obtained by opening the windows at the back and front of the house. They may have been built specifically as gallery houses or

may have been converted workshops belonging to the Colliery Company. They are well exemplified in photographs No. 5 and 6 (North Corner, Seaton Delaval) and Nos. 7, 8 and 9 (The Barracks, Cramlington). The general state of disrepair in photographs 5 and 6 will be appreciated, the site level of No. 5 being considerably below the level of the colliery railway which passes immediately in front.

In photograph No. 7 a stable will be seen on the right hand side and, immediately above it, the village reading room which is approached by an outside staircase. To the left of this staircase will be seen the gable end of the houses which are built on to this structure. Photograph No. 8 indicates another view of this reading room with the gallery approaches to the left of the picture. Photograph No. 9 gives a view of the same houses viewed from the west. In the left of the picture is seen a row of "single" houses with a workshop at the end of the row. In the foreground is seen a heap of stone and colliery refuse.

Single storey cottages.

These are analogous to the "But and Ben", so well known in Scotch villages, and consist of a combined kitchen and living room and a bedroom. Through ventilation is obtained and, so long as the family remains confined to the limits of the miner, his wife and one or two infants, there is no doubt that they meet the case but attention may be drawn again to the open channel system of surface drainage and the deadly monotony and length of the streets. These are well exemplified in photographs No. 10, 11 and

12 (Ridley Street and Hastings Street, Cramlington). On the extreme right of photograph No. 11, which is the back of Ridley Street, Cramlington, will be seen the gable end of what is a row of combined privies, wash-houses and ash-pits, the ashpits in this case being roofed. No. 12 shows the back of Hastings Street and on the left side are more clearly indicated the combined privies, ashpits and wash-houses with the open channel immediately to the right of the wash-houses.

Flats.

A typical example of this class of house is seen in photographs No. 13, 14 and 15 (Mortimer Street, Hartford). On examination of photograph No. 13, what corresponds to the front of these houses will be seen; it will be observed, however, that there is no entrance on this side at all. Casual inspection does not reveal anything particularly offensive with the exception of the wearisome monotony. The down spouts do not reach to the ground and discharge on to the brick footpath. Very different, however, are they when viewed from what corresponds to the back of the premises which are well seen in photograph No. 14. Anything more depressing and revolting to every sense of decency it is difficult to imagine. Structurally they are built of a very inferior quality of brick and it will be seen that the street consists of two rows of flats with an aisle of combined privies, ashpits and wash-houses running down the centre. The distance from the back of the houses to the privies is 32 feet. The backs of these houses are seen more in detail in photograph No. 15 which

indicates very clearly all the evils which have been hitherto described. These may be epitomised as follows:-

(a) Poor quality of bricks.

(b) Pervious, uneven brick footpath.

(c) Open channel drainage.

(d) Unpaved streets.

(e) Combined privies, open ashpits and wash-houses.

Altogether it is one of the most soul depressing sights that could be conjectured.

The street itself is divided up into flats, details of which will be seen in plan No. 2.

A "House" is known locally as consisting of the upstairs and downstairs flats. The street is built in a series of two houses consisting of four flats, each flat comprising a kitchen or living room 15' X 15' with a small larder opening from it and projecting to the back of the premises. The window of this larder is only 6 feet from the open channel and 32 feet from the privies and open ashpits. The possibility of contamination of food is therefore very evident. Opening from the kitchen on the other side are two bedrooms, one 15' X 10'6" and the other 15' X 7'9", the larger of the two having a fireplace. On the ground floor and adjacent to the living room is a small dark closet without any ventilation whatever, this closet being below the staircase leading to the upper storey. In the case of the latter, however, the position of the closet, which has a small window opening to the back, is reversed. In all other respects the details are identical.

Wooden houses.

Previously it was indicated that when new seams of

coal were discovered it often became imperative that housing provision should be made very quickly and that wooden buildings were often erected to meet the wants. Photographs No. 16 and 17 afford good examples of wooden houses. These houses have been in existence for the last 50 or 60 years and were probably erected between 1860 and 1870 to accommodate the Cornish miners who came north during a strike. The northern gable end in photograph No. 17 is built of brick; the southern end, however, is wooden but the houses are otherwise built in every respect of timber.

The open ashpits and privies will again be noticed with open channels and unmade streets. There is not sufficient room for two carts to pass between the privies and the backs of the houses, which consist of a living room on the ground floor looking towards the front and a lean-to pantry and scullery looking to the back, with two bedrooms above, the area of the two bedrooms being equal to that of the living room below. A small garden is attached to each house at the front as shown in photograph No. 16.

Double Houses.

A "double" house, generally speaking, may be taken to indicate one in which there are two rooms downstairs and the same or greater number of rooms on the first floor. Of these no sub-types exist but various stages of development may be traced. An attempt has been made to show this progressive development by arrangement of the photographs.

Photograph No 18 (Double Row, Hartley) shows the oldest type of these houses which are built of stone with brick chimneys. A close study of this photograph is of supreme interest. They are, so far as can be gathered, over 80 years old. Although in very few respects do they meet the sanitary requirements of the present day, it is obvious from even a casual glance at the photograph that they were erected before the days of the "jerry builder", and that who ever was responsible for their construction, he had a certain amount of pride in his work. Possibly at that time they were reckoned excellent examples of working class dwellings. In criticising them, this fact must be borne in mind as it is more than probable that they fully met the requirements of that day. They represent the superior type of workmen's dwelling of 80 years ago.

A melancholy interest attaches to photograph No. 18 inasmuch as these houses represent the dwelling places of many men who were killed in the Hartley pit disaster of 1862 when, owing to the beam of the pumping engine falling down the pit shaft, this was rendered useless and 204 men were entombed. Half of this beam still remains buried in the old pit shaft. It is instructive also to note that as a consequence of this accident, all pits in which more than 20 men are employed underground are now legally compelled to have two shafts.

The accommodation provided consists of two rooms below and two or more bedrooms above with a lean-to larder. In this type of dwelling there is no open channel system at

all, the spout simply discharging on to the road.

Photograph No. 19 shows the back of similar houses and indicates very clearly that the lean-to larder is a modern development, being built of brick. The privies are also seen on the extreme left of the picture and in greater detail in photograph No. 40, Type of Privy No. 1, page 66. More will be said about these at a later stage.

Photographs No. 20 and 21 (Double Row, Seaton Delaval) represent a further stage in development, stone again being used in their construction. The accommodation provided remains substantially the same but reference to photograph No. 21 shows that the lean-to larder is now part of the original structure. The open ashpits are shown in the roadway at the back of the houses. An excellent representation of these receptacles is seen in photograph No. 44, page 68. The part in which the ashes are placed is entirely walled in whilst the portion which is open at the front is used for storing coal. To the left of the picture is seen the stand pipe water supply for the whole of the houses.

A limited garden space is allotted to each house and is situated either at the back or the front of the dwellings. The privy in each case is a wooden erection situated in the garden allocated to the house. The type of privy is represented in photograph No. 42, Type No. 3, page 67

A still later development is depicted in photographs No. 22 and 23 (Scott Street, Hartford). In this case the houses are built entirely of brick and present a very tidy

appearance but are still grouped in long, monotonous rows. The houses are self contained, through ventilation being assured, and the accommodation provided is again of the "Double" house type. Each house has an enclosed yard at the back, in which is situated an ash closet. The back of this ash closet with a privy is well seen in photograph No. 23. The down spouts discharge directly on to the pervious brick pavement.

It is interesting to note that the addition of a pantry to the structure of the larger dwellings has now begun to have a distinct influence upon the style of architecture at the back of the houses, and the gabled slope is well seen in photograph No. 22. At the back there is again the pervious brick footpath and the open channel drainage, the streets at both back and front being unpaved. There is no doubt, however, but that this type of house is a distinct improvement upon previous examples.

Photograph No. 24 provides an excellent epitome of everything which has been said in this Thesis about progressive development and construction of the houses and streets, whilst a reference to photograph No. 26 exemplifies the statement already put forward that in some cases the miners have added, very often at their own expense, a small room at the back. In this picture, in the first two houses this lean-to room has been added but in the third house, just at the point where the children are playing and where fowls are feeding, will be noted a gap; in this dwelling the lean-to kitchen has not been added. Incidentally, attention may be again drawn to the pervious brick footpath, the open channel and the unpaved roads.

Photographs No. 24 and 25 show what it is possible to do with these unsatisfactory dwellings by raising the main walls 4 feet and retaining, or adding, the lean-to kitchen at the back. These photographs show two distinct classes of building. The first ten houses were originally identical with the remainder and have quite recently been re-constructed in their present form. The accommodation previously was:- on the ground floor, one living room to the front and, in some cases, a kitchen at the back, and two small bedrooms approached by a step ladder or rough staircase from the kitchen. These bedrooms were about 13' X 8'; the front one was lighted by a small window which came practically to the level of the floor whilst the eaves of the roof commenced at the top of the window. The back bedroom was lighted only by a small sky-light. Neither bedroom had a fireplace.

Plan No. 3 shows very well on the left side of the sheet the structure of the dwelling before alteration and on the right hand side the same house after alteration. The accommodation now provided consists of:- on the ground floor, one living room which has been raised 1 foot, and a lean-to kitchen. This practically remains what it was previously but now a much improved staircase has been substituted for the primitive step ladder. Upstairs the number of bedrooms remains the same. The height of the bedrooms has been raised at least 1 foot in each case; each bedroom has a fireplace and through ventilation is obtained by windows which are placed at the back and front, whilst a small window which lights the staircase has also been

added. The length of the bedrooms has been materially increased, in the case of the front one by between 3 and 4 feet and in the case of the back one by 2 feet.

The pantry, which opens from the kitchen, remains as it was in the unconverted house where such existed and, in those cases where no such accommodation was provided, it has been added.

Attention has also been given to the exterior of the houses which are being rough-casted. The amenities of the houses have been enormously increased and it is intended to relieve the monotony of line by slight variations in architectural construction.

Photograph No. 25 shows the backs of both converted and unconverted houses and the neatness of the former stands out in marked contrast with the unconverted houses on the extreme left of the picture and with those in photograph No. 26 which indicates in more detail the backs of the unconverted premises. The pervious brick pavement, the open channel drainage and the unpaved back streets will still be noted.

Photograph No. 27 may well be noted as an exemplification of ancient and modern methods so far as type of construction is concerned. On the left hand side of the picture are shown some houses, the type of which has been previously described, and which indicate again sameness and long rows of barrack type dwellings. Almost in the centre of the photograph but a little to the right hand side, will be seen a more modern type of house built about the year 1913 but still preserving the same characteristics.

In the foreground and to the right will be noted some modern houses built in separate blocks of four in which a successful attempt to vary the stereotyped pattern has been made. The arrangement of these is seen in plan No. 3.

These are houses built by the Colliery Company and their construction is very largely due to the efforts of one interested gentleman, the Managing Director of the Company. The accommodation provided on the ground floor consists of a living room to the front fitted with an excellent cooking range and cupboard (which never existed in any previously described types) and beautifully lighted with a four mullioned window. The scullery is at the back of the premises and contains a receptacle for coals, which can be lifted through a closed aperture on the outside of the wall. A copper for boiling clothes is also fitted and a sink with hot and cold water and draining board. This room also has a window with two lights. The house is entered by a door at the front opening into a passage, on the right of which there is a food larder and a staircase to the upper storey. On the left there is a door leading into the living room. At the end of the passage is a bathroom. The scullery opens into an "open lobby" at the back, from which the W.C. is approached. The bathroom is lighted by a window which opens on to the "open lobby", and the W.C. by a small window at the back.

Upstairs there are three bedrooms, two in front and one behind, two of which have fireplaces. All three are well lighted.

The houses are built in blocks of four, each pair

being separated by a "through arch", one of the houses abutting on the arch having a fourth small bedroom without a fireplace. The houses are rough-casted and of very artistic external appearance. The footpaths are cemented, the roofs well drained and the soil pipe properly and adequately ventilated.

Whatever criticism state housing may be subjected to, there can be no doubt but that the influence exerted in every way upon the type of house erected in colliery districts has been a most beneficent one as, although these houses are not state constructed, they have of course received the state subsidy, a professional architect has been employed to prepare the plans (a thing unprecedented in colliery house building in this district) and, in order to obtain the state subsidy, the plans of the houses have had to be submitted for criticism and approval by the representatives of the Ministry of Health.

Photographs No. 28 and 29 show different types of the same class of dwelling. Here again great emphasis is laid upon the variety of design and aesthetic beauty.

In the foregoing remarks an attempt has been made to place before the reader a complete history of "free" colliery houses from the earliest period up to the present day with the various phases of development. The hope is expressed that the attempt has been successful and instructive.

RENTED HOUSES.

This part of the subject is a little more difficult to approach; hitherto we have dealt with houses which are specifically associated with, and built for, colliery

employees by colliery owners and which have been used by the former without direct payment of rent. In contra-distinction to these, we have the "rented" houses, again used by colliery workmen but for which a direct rent is paid to a private landlord. Whilst in a good many cases "rented" houses are very similar in type and construction to "free" houses, competitive stimulation has, in the majority of cases, produced a slightly better type of dwelling, and whilst development, as has already been stated, has been progressive, at the same time it has to be pointed out that the earliest type of "rented" house is structurally far superior to the later class of building. This is an apparent paradox but is explained by the fact that colliery development produced a deterioration of good class residential property and houses used by well-to-do farmers and tradesmen were vacated as a result. They were either converted by their owners into tenements or purchased by private speculators for the same purpose. This is well exemplified in photograph No. 30. The good, square, solid, comfortable type of house built of faced stone is well seen. This is now converted into inferior tenements of one or two rooms.

Photograph No. 31 shows the back of these dwellings and illustrates what so frequently occurs in property of this kind which has depreciated in value owing to local developments, viz., that a house de-graded from residential occupation to tenement property becomes debased as the result of the filthy and careless habits of the tenants occupying it. The writer's meaning is well typified in

the Canongate of Edinburgh, once the residence of noble and aristocratic families, now ----------?

Photographs No. 32, 33 and 34 show the depreciation of good class property which has been converted into flats consisting of one or two rooms. The back of these premises is indicated in photograph No. 35. It will be noted that they are stone built and at some time or other have been dwellings of some pretension.

Photograph No. 36 shows in more detail the continuation of photograph No. 33. The property has been converted into tenement gallery houses of one or two rooms in a state of bad repair due, in large measure, to the indifferent habits of the tenants and also to the fact that, the houses being let as a source of income for the private landlord, money is not expended upon them, as it ought to be, in order to meet modern sanitary requirements.

Photographs No. 37 and 38 show "rented" houses of the "But and Ben" type, insanitary to a degree and built on the soil without damp courses or concrete foundations. It may be stated that these houses are not suffering so much from senile decay as from disreputable old age. Whilst at one time they may have presented an air of picturesque rural comfort, they now stand out in marked contrast to the property seen at the end of the street in photograph No. 38 and, when compared with the dwellings erected under the national scheme, present even to the most untutored mind, material for careful reflection. It is a matter of some interest that the village nurse is seen walking in front of the houses in photograph No. 38 and, from my own experience,

her services are in great demand in that particular district.

Photograph No. 39 is of some importance, though a somewhat flat looking picture. On the left hand side are houses constructed for, and let as, flats. They were built with this end in view, often by the workmen themselves and again by speculative builders. It will be seen that they are a distinct improvement on the "free" colliery flat as indicated in photographs No. 13, 14 and 15, pages 51,52.These houses are unusual in that both the upstairs and downstairs tenants have a front and back door. The two back doors open on to an enclosed yard at the rear with separate privies and a common ashpit. On the right hand side of the picture the first few houses are self contained.

The final product of "Rented" house is, of course, that erected under the National Housing Scheme introduced by Dr. Addison, the first Minister of Health, the local scheme for Seaton Delaval being illustrated in plans Nos 4 and 5, which represent houses of the B. and B.2. types. In a large measure these houses are comparable with the latest type erected by the Colliery Company for employees, the B. type consisting of semi-detached, two storey villas with a parlour, living room with a well equipped cooking range and a store cupboard, and a scullery on the ground floor. The front door opens into a passage, from which entrance is gained into the living room, parlour, scullery and food larder. At the side of the house is an "open lobby" from which the coal house and scullery may be entered. A suitable copper for washing clothes and a

sink with hot and cold water and draining board is provided in the latter. Upstairs are three bedrooms, all fitted with fireplaces and well lighted. On this floor also are a separate W.C., bathroom provided with hot and cold water with a lavatory hand basin, and a linen cupboard. The front and back elevations are of artistic proportions and the rooms are suitably lighted by decorative windows of the sash type.

In the B.2. type the accommodation is practically the same but the rooms are slightly bigger, the W.C. is downstairs and a small recess projecting from one side of the parlour is intended to serve as a cloakroom. The accommodation upstairs consists of three bedrooms, a bathroom and lavatory, with a fireplace in each bedroom.

REFUSE DISPOSAL.

No treatise upon the subject of housing in a colliery district can be complete without reference being made to the method or methods of refuse disposal. Of all conditions, this probably has a greater bearing and influence on the public health than overcrowding.

Many factors enter into consideration and have to be dealt with and allowed for. It is easy to advocate a water carriage system and there may be no difficulty even with the Local Council in accepting the responsibility for the conversion of privies into water closets. There is, unfortunately, one factor which may upset the best water carriage installation, viz., surface subsidence, in which acres of ground may sink several feet owing to the withdrawal of large quantities of coal and stone immediately

underneath. It is within the writer's experience that a complete modern system in which no expense was spared to make it efficient was upset and rendered useless within a few months after completion. The risks incident upon such a venture have therefore disposed local builders and owners to cling very tenaciously to the conservancy system, and this may be looked upon as one of the strongest factors in the production of a high infant mortality rate and the rendering, and keeping, endemic of Enteric Fever in colliery districts.

Four types of privies may be described as obtaining in this county:-

Type No. 1, known locally as privy ashpits and shown in photograph No. 40, consists of an open ashpit, at each extremity of which and opening into it are two privies. In the oldest type they are built of stone. As the property decayed, they have been repaired by the colliery mason with any convenient material discarded from the workings which could not be put to any more useful purpose. It is difficult to imagine anything more unsightly and loathsome, the excreta being apparent to any person unfortunate enough to be near. In very few cases is any systematic or regular attempt made to utilise the ashes for covering the excreta. One reason for this, and a very important one, lies in the fact that in wet weather the roads are impassable owing to the quantity of mud; the inhabitants then utilise these ashes to form a dry footpath from their houses to the privies. The muddy state of the roads is well seen in the photograph. Attention

may be drawn to the depressing appearance of these structures and it may be pointed out that the photograph was taken on a very sunny day as is apparent from the shadows falling upon the doors. On hot days in summer, a very objectionable smell is always perceptible in the neighbourhood of these erections which form the nidus and breeding place for swarms of flies which are always present in the immediate vicinity. In wet and rainy weather the places become sodden and disgusting. During a wind storm the surrounding area is rendered uncomfortable and obnoxious by fine deposits of contaminated dust, which finds its way into the houses, on to the food and even into the eyes of pedestrians.

Privy Type No. 2, photograph No. 41, represents a further development of the same type. In this case the ashpit is roofed in and the privies are in blocks of four; in all other respects they are identical. On the right of the photograph is shown a roofed in wash-house which serves for eight houses, being regarded as a distinct advantage which it undoubtedly is as, prior to this, all washing had to be done inside the house.

In Privy Type No. 3, a distinct improvement has taken place, the privies being entirely separated from the ash-pits. The latter are built in a line in the middle of the road at the back of the houses. The privies themselves are placed adjacent to or in the gardens, and consist entirely of single wooden erections set up like sentry boxes in a row.

Photographs No. 42, 43 and 44 should be considered

together as they represent respectively the fronts and backs of these structures with the brick open ashpit and coal store already described. The excreta are received into buckets which are emptied periodically by the Colliery Company and carried to a "tip" along with the ashes and refuse from the ashpits. They may be objected to on several grounds, viz., that they are damp, that they very quickly decay and that the wood itself is apt to become soiled and foul, thus favouring the transmission of disease.

Privy Type No. 4, photograph No. 45, represents the most modern type of "privy ashpit", known locally as an "ash closet". In this case it consists of two central coal stores with a self-contained privy built at each end. The roof slopes and consists of a solid cement block, each privy having a movable window at the side and a ventilator over the top of the door. The excreta are received into a bucket and at the side will be seen an iron door from which this is removed along with the ashes which are shot into it through the opening in the privy seat. This is a distinct improvement over anything previously existing in that for the first time the privy is lighted and the iron door in the corner is only large enough to admit of the removal of the bucket; hence it becomes difficult for the tenant not to cover up the excreta with the household ashes.

WATER SUPPLY.

The question of water supply in a colliery area has always been one of very great difficulty. Up to a few years ago it was generally obtained either from water

pumped from the pits into tanks, from which it gravitated to stand pipes, or from shallow wells. The objection to the latter from the point of view of public health is so well known as not to need elaboration in this work. That obtained from the pits is always very hard and, in addition, is extremely liable to contamination from a variety of causes. It was never possible to make sure that an ambulant case of Typhoid or an actual Enteric Fever carrier might not be at work somewhere in the pit and so directly contaminate the water supply by careless and indifferent habits. Further, in many cases the excreta removed from the dwellings may be conveyed to a "tip" or deposited upon agricultural land. During the course of a heavy storm an emulsion may be washed directly through cracks in the strata (similar to that of chalk formation) after a prolonged drought and thus find its way directly into the underground reservoir.

Another water supply has been that obtained directly from the rivers, this again being liable to contamination from agricultural land in the vicinity. The River Blyth recently furnished a water supply for several villages in its course, particularly for the Urban District of Bedlington. For several years Typhoid Fever was both endemic and epidemic in this town. The water was pumped from the river and stored in a reservoir. During an outbreak of exceptional severity, a bacteriological examination of the water was made and revealed the presence of Typhoid Bacilli in appreciable quantities. After this source of supply was discarded Enteric Fever became much less prevalent

in the district.

A further and very primitive source of water supply in these areas, which is still utilised, is the actual collection of surface water from agricultural land into small ponds or metallic reservoirs by gravitation, whence it is distributed to the surrounding houses by the same method. In these times such a statement seems difficult to believe but an actual instance will be referred to in the summary. In this case an epidemic of Enteric Fever originated from such a supply, the contamination of which was traced directly to privy refuse brought from the Urban District of Bedlington, several miles away. This occurred in December 1921.

At the present moment in the majority of districts corporate supplies, collected from the upland surfaces in the northern portion of the county, are being utilised.

The absence of a continuous water supply has had a very considerable influence upon the progress and development of housing conditions, not only in dwellings inhabited by miners but also in those occupied by the upper and middle classes, in that it has been impossible to instal either a water carriage system of excrement disposal or to introduce satisfactory fixed baths into any dwelling.

INFLUENCES WHICH BEAR UPON THE QUESTION.

It would be vain and futile to assert that housing conditions in the colliery districts of Northumberland are ideal. Indeed they are in many cases a disgrace to civilisation and it is possible to find in various parts of the country cattle housed under more sanitary and comfortable

conditions than human beings. This statement is made after due consideration of its gravity. At the same time it has to be pointed out that many factors have an important influence upon the question.

The local custom, in accordance with which the miner is accommodated with a "free" house, has had a considerable influence upon the social conditions of the past and present day, and it is only fair to state that the miners themselves have been, and are still, responsible for many of the conditions incident thereto, inasmuch as so soon as a "free" house becomes available there is a keen rush of competition amongst the men to obtain it, whatever its sanitary state may be and no matter whether it be markedly inferior to the "rented" house which the man is actually occupying at the time. Indeed, a man who has had a child under sanatorium treatment for Tuberculosis has been known to leave a fairly satisfactory "rented" house for a much less hygienic "free" house with more restricted accommodation. The difficulty is further accentuated, inasmuch as the allowance made in lieu of a "free" house is not sufficient to pay the weekly expenses of a "rented" house. This again excites competition for the "free" dwelling, however limited the accommodation. So long as such a spirit of cupidity prevails amongst the class whose standard it is desired to raise, it is impossible to make much progress short of demolishing whole areas of insanitary property, a most difficult thing to accomplish in these days.

Moreover, it is most unfortunate that the miners' leaders themselves have spoken and written in support of

the "free" colliery house system. When writing upon this subject, one of the most prominent miners' leaders in the north of England wrote as follows:-

> "There is a greater proportion of free colliery houses in Tynemouth than in Newcastle-on-Tyne, and the number of persons per room is less. Surely, if this tells us anything, it tells us that the greater the proportion of free colliery houses the better housed are the workers, so far as the number of persons per room is concerned.
>
> I certainly think that the housing conditions in the North are a disgrace to twentieth century civilisation BUT I DESIRE TO DISABUSE THE MIND OF ANYONE WHO IS INCLINED TO BLAME THE FREE COLLIERY HOUSE SYSTEM FOR THAT STATE OF THINGS."

OVERCROWDING.

The rent allowance is occasionally productive of a certain amount of overcrowding, inasmuch as it is insufficient to cover the expenses of a separate establishment. This induces a man to share the limited accommodation with another family. Thus the evils are perpetuated.

The average number of persons per room in tenements of various sizes in England and Wales is 0·95 and varies in the different counties from 0·73 in the Isle of Wight to 1·29 in Northumberland and 1·34 in Durham. The two counties, therefore, in which the "free" house system is

so largely operative are thus shown to be the most lacking in that degree of comfort which ample room accommodation undoubtedly affords.

It must be borne in mind, however, that the "free" house system is not altogether responsible for the degree of overcrowding. It should not be forgotten that in very many of these areas it is possible to count upon the fingers of two hands all the houses with more than four rooms.

Another fertile cause of overcrowding is the early marriage of the miner. A pitman at the age of 21 years is earning as much money as he ever will do and is therefore in a sound financial position should he desire to marry. Unfortunately, there is not a sufficient number of houses in the colliery districts for him to set up a separate house and he is forced therefore to "live in" either with his own parents or his wife's, because it is often several years before he is able to procure a house for himself. Naturally as his family increases the overcrowding becomes worse.

A further cause of overcrowding is the periodical boom in the coal trade, when numbers of men with their families are induced to come to the district. Owing again to the insufficiency of houses, they are forced to become lodgers.

Comparing the various counties as regards the proportion of population living under conditions which we may term of ample room accommodation, and taking one person per room occupied as the ideal standard, the following figures indicate the number of persons per 1,000 of

population who live in houses where the number of occupants does not exceed the number of rooms respectively occupied:-

For England and Wales the figure is 467 per 1,000 of population, that is to say, out of every 1,000 persons resident in England and Wales 467 have a separate room for themselves. The figures for the principal coal-producing counties are:-

Nottingham	529.
Lancashire	481.
Derbyshire	479.
Glamorgan	470.
Staffordshire	441.
West Riding of Yorkshire	433.
Monmouthshire	412.
Northumberland	275.
Durham	255.

The Registrar General, for purposes of statistical comparison, takes as his standard of overcrowding the ratio between bedrooms and occupants of two to one, that is, he considers a house to be overcrowded where the number of persons is more than double the number of rooms occupied. From the table given below, it will be seen that 91 persons per 1,000 of population in England and Wales are living in a condition of overcrowding. In making a comparison between the figures of the various administrative counties, it would be obviously unfair to compare counties so widely divergent in general characteristics as, e.g., Durham and Dorset or Northumberland and Norfolk. In order to make a more equitable comparison, the figures for the counties in England and Wales which include in their areas the chief coal measures have been taken. Not only is this fairer but at the same time it

allows a comparison to be made between "coal counties" where the "free" house system is in vogue and other "coal counties" where the actual relations of landlord and tenant obtain.

County	Total Population.	Number of "overcrowded" houses and number of persons living therein.		No. per 1,000 population living in an overcrowded condition.
		Houses.	Persons.	
Nottingham	344,194	1,323	12,525	37
Glamorgan	742,998	4,458	37,799	52
Derbyshire	560,013	3,169	29,019	53
Lancashire	1,739,320	12,078	105,960	63
Monmouth	312,028	2,893	24,479	80
Staffordshire	738,990	7,382	62,585	87
Yorkshire (West Riding)	1,584,880	20,463	158,354	109
Durham	929.214	34,757	259,633	285
Northumberland	371,474	14,877	104,306	287
England & Wales	36,070,492	430,910	3,139,472	91

It will be seen, therefore, that Northumberland and Durham stand out pre-eminently as the two counties in the whole of this country with the greatest number per 1,000 of population living in an overcrowded condition; more than double the number of persons similarly circumstanced in the West Riding of Yorkshire and three times the number of persons similarly circumstanced in Staffordshire. These are figures which require urgent and grave consideration and are quoted from the report of the Registrar General, the calculations being made upon the census returns for the year 1911.

FINANCIAL CONSIDERATIONS.

It has also to be borne in mind that the colliery owners in building houses are, generally speaking, entering upon an undertaking which custom has thrust upon them, and which is to them a matter of secondary importance compared with the development and success of their coal producing business. The question of competition in this branch of their enterprise need not be entertained, although with the speculative builder competition will always have a tendency to, and generally does, raise the standard of the amount of accommodation provided if not the structure of the houses themselves. The lower the standard the less capital will be locked up and correspondingly more will be available for developing the resources of the mine, the primary object for which the Company came into existence.

The amount of rent allowance which must be paid if houses are not provided is so small that it naturally has some effect in determining the value of the house which is provided to obviate the necessity of paying the allowance referred to.

TENURE OF LAND.

The houses in this area are generally leasehold and granted upon comparatively short terms. Although the leases are almost invariably renewed, yet it is possible that the relative insecurity of tenure of the ground has some influence upon the standard of house erected. This point, however, is not greatly pressed.

LENGTH OF LIFE OF COAL SEAMS.

The probable length of life of the coal seams has

some influence upon this problem, more especially in a county like Northumberland where the coal has been continuously extracted for hundreds of years and must now be in process of exhaustion.

SOCIAL CHARACTERISTICS OF THE NORTHUMBERLAND MINER.

Many writers upon social conditions have laid great stress upon the influence of environment upon the physical development and morale of the individual. It is interesting to note that the Northumberland miner, generally speaking, is a well developed, healthy man, capable of great physical endurance, extremely cleanly in habits, sober, upright, independent and of clean morality. It is amazing, when one considers the conditions of life under which he has been reared, that he remains acknowledged as the best type and most level headed coal miner in the United Kingdom. For proof of this, it is only necessary to peruse the records of industrial strife for the past few years, when it will be found on almost every occasion that the Northumberland miner has been the last to indulge in extreme measures, and it only remains to say that, generally speaking, the relations between master and man are of a most cordial and friendly nature. It has been frequently stated that the Northumbrian miner is the aristocrat of the coal mining industry. It is significant that the first working man to be returned to the Imperial Parliament was a Northumbrian pitman, Thomas Burt, who afterwards became a Privy Councillor and is happily now still alive.

At this stage reference and careful study of photograph No. 46 (New Square, Seghill) should be made. From the report of the Registrar General quoted above, the number per 1,000 of population living in an overcrowded condition for the Urban District of Seghill was 461; thus Seghill was the most overcrowded place in the whole of the country. Although such is the fact it cannot be inferred that, because these people are living under such conditions, they have lost their self-respect and cleanly habits. This the picture very pleasingly indicates.

A study of photographs No. 47 and 48 reveals the very obvious state of disrepair in all the buildings concerned. These houses are at the present moment in actual occupation. It will be observed that the end of one has completely given way and is in a state of ruin, whilst in photograph No. 48 the end of another house is being supported by buttresses. The inhabitants of these houses are still retaining their characteristic habits of endurance and cleanliness, and in photograph No. 48 will be seen a well dressed mother and child proceeding along the street.

SUMMARY EMBODYING DEFECTS AND CONCLUSIONS ARRIVED AT DURING THE INVESTIGATION OF THIS SUBJECT.

Summarised briefly, the housing defects existing in the colliery districts of Northumberland are as follows:-

(1) Insufficient accommodation, both as regards number of houses, and number and size of rooms.

(2) Faulty construction, inasmuch as the majority of houses are deficient in lighting and ventilation and

are without proper damp courses and an efficient drainage system.

(3) The almost universal presence of the conservancy system of refuse disposal.

(4) Insufficient and impure water supply and lack of provision for washing and bathing.

(5) The practice of building large numbers of houses identical in appearance and construction.

1. INSUFFICIENT ACCOMMODATION.

This has already been dealt with in the earlier part of the Thesis. The obvious remedy, of course, is to build more houses of a type similar to those constructed under the National Housing Scheme or to re-construct existing property on the lines indicated in photographs No. 24 and 25 and plan No. 3. The national scheme has done more to raise the standard of housing in Northumberland than any influence in the history of the county. This cannot be too strongly emphasized. It has met and overcome every single difficulty and obstacle; the pity is that it has been undertaken in such times of financial stress and anxiety. It has been repeatedly stated that state housing is a failure but this does not accurately represent the facts. The methods employed, however, to inaugurate such a scheme have been at fault. At the present time, there are existing in three districts in this county, viz., the Borough of Morpeth and the Urban Districts of Newburn and Whitley & Monkseaton, housing schemes which were in working order many years prior to 1914 which have paid their way and, in some cases, are now actually making a profit which goes to the relief of the rates.

2. FAULTY CONSTRUCTION.

The remedy here again is covered by the suggestions made above. Many of these defects are incident to buildings erected prior to the days of scientific building construction, e.g., back-to-back houses, gallery houses, &c.

3. REFUSE DISPOSAL.

The effects of the conservancy system upon the health of the community are very great but the writer only desires to draw attention to the effect upon three specific diseases, viz., Enteric Fever, Infantile Diarrhoea and Chlorosis.

With regard to Enteric Fever, in many counties in England and Wales this is practically an unknown disease and there are several counties in which no single case has occurred for many years. In Northumberland, however, the disease is always present. This may be due to a variety of influences such as, importation from other areas, consumption of contaminated food or water or the debatable influence of the Enteric Fever carrier. Of whatever origin the disease may be in the first instance, once it is imported into a district where the conservancy system obtains, there is no limit to the possibilities of infection. The hospital accommodation for the treatment of Enteric Fever in this county is very limited. Consequently, the majority of cases have to be treated in the patient's own home and, however careful and punctilious the practitioner may be in his instructions to the patient's relatives and attendants upon the subject of disinfection and destruction of the dejecta, it is impossible to make

sure that the discharges are not cast into the privy. The writer has seen, again and again, cases of Enteric Fever develop immediately around one single house where a case originated many months before, the presumption being, either that the faeces of the original patient were thrown directly into the privy or that he remained a Typhoid carrier and used the privy himself regularly. As has been previously stated, swarms of flies settle on the privy contents and possibly convey the infection to the food and milk consumed by the secondary patients.

A further example of the baneful influence of the conservancy system may be related at this stage. A very sharp outbreak of Enteric Fever occurred at the village of Sheepwash in the Rural District of Morpeth. Close investigation of the circumstances was made and it was found that the whole of this village derived its water supply from a reservoir on the breast of a hill. Immediately above were two large fields of agricultural land which had been manured with privy contents brought from the Urban District of Bedlington, several miles away. It transpired that 18 months previously several cases of Enteric Fever had occurred in Bedlington. On investigation, it was found that one of the cases living in this area still remained a Typhoid carrier. The surface water from these fields was collected by means of field drain pipes at a depth of less than two feet from the manured surface and carried directly into the reservoir. Several bacteriological examinations of the water supply were made and, although these were swarming with Bacillus Coli Communis,

no actual Typhoid bacilli were found. The water supply was immediately cut off and no further cases occurred.

Much that has been said about the transmission of Enteric Fever applies with equal force to Infantile Diarrhoea. It is always more or less present in the colliery districts, especially on the first occurrence of rain after summer drought. So much so, that unfortunately, it has come to be regarded as one of the unavoidable diseases of childhood and infancy. As a matter of fact, although last year was a very dry one, there was little Infantile Diarrhoea in this county but this may be explained by the fact that the rains did not come until colder weather prevailed.

With regard to Chlorosis, which is the commonest of all conditions in these districts amongst adolescent girls, the conservancy system is, in the writer's opinion, largely responsible. The privies are placed at some distance from the houses and are directly in view of all passers-by and of many of the inhabitants of the surrounding houses. As in other colliery districts, the miner is going to, or coming from, work at all hours of the day and night. As a result of this, many men who are not working pass the time standing and smoking in groups. In the face of such conditions, it is distinctly embarrassing for a modest girl to go from the house to the privy when she ought to do so. As a consequence, she neglects herself and the natural desire passes off. The inevitable result is that chronic constipation ensues, this being in the writer's opinion a very fertile cause of anaemia in young girls.

4. WATER SUPPLY.

It is not necessary to further elaborate the question of water supply as it has already been dealt with and is being remedied in the county at the present moment by the introduction of corporate systems.

It may, however, be stated that the collieries in Northumberland do not as yet possess pit head baths for the men, such as have been provided in Lancashire, South Wales and the West Riding of Yorkshire. These are especially necessary in view of the fact that home baths cannot be installed in the smaller houses and the ablutions of the Northumbrian miner, which are very elaborate, have to be performed in the kitchen in view of the whole family and piecemeal by the aid of a small tub which will only contain one limb at a time.

5. MONOTONY OF CONSTRUCTION.

With regard to this, no further comment is necessary save to again extol the practical virtues of the National Housing Scheme and of the houses of the same type at present being built by the colliery owners themselves. There is no question, however, but that the giving of a state subsidy and the consequent Departmental supervision prevented the perpetuation of the standard types of colliery streets and houses.

As a last word it may be stated that the difficulties of the Health Officer are very largely those of administration. He reports month after month and year after year upon the same conditions. Acts of Parliament have been passed. Local Councils neglect their duties

and take no advantage of the powers conferred upon them by these Acts. Colliery proprietors have undertaken duties which in many cases might seriously have been discharged by the Local Authorities. The County Councils are often constituted of men representing vested interests whose chief desire and object is to keep down the rates and practise economy as interpreted by themselves. Thus they are automatically prevented from exercising that pressure upon, and supervision over, the working and methods of the subordinate Authorities which is one of their prime functions.

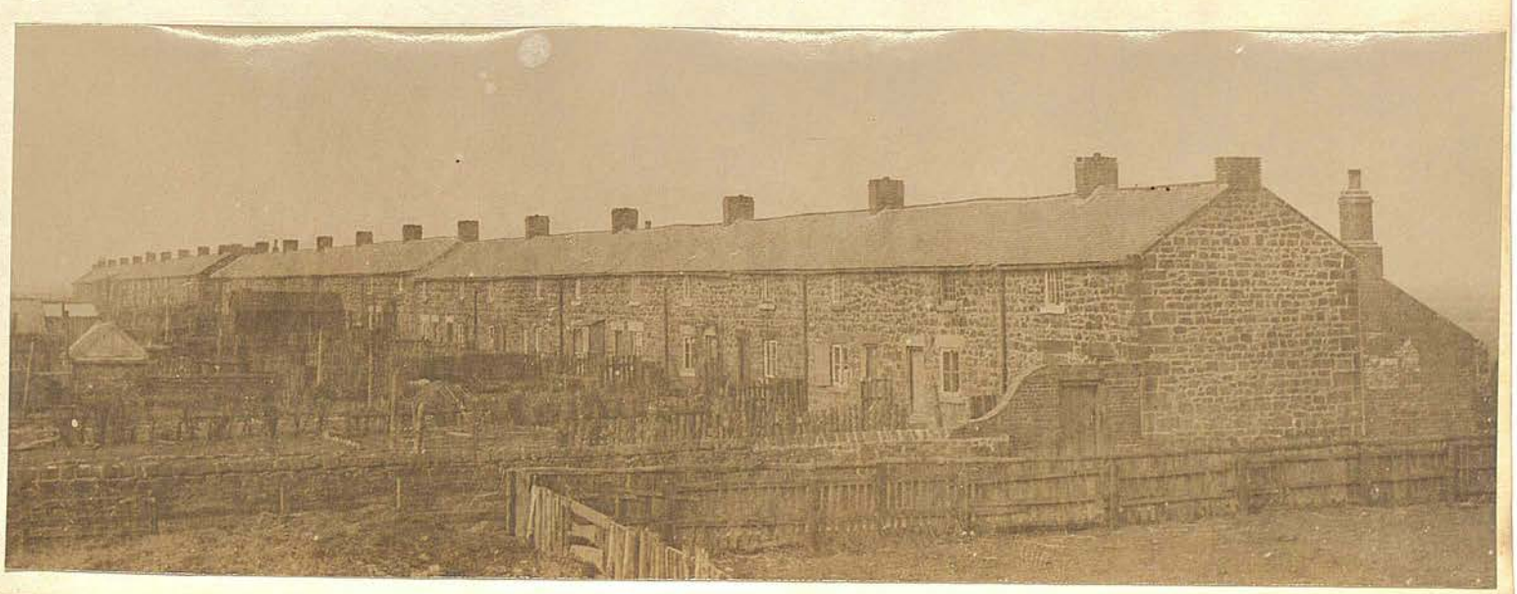
Medical Officer of Health for the
Urban District of Cramlington.
Northumberland.

Hastings Cottage.
Seaton Delaval.
March 21st.1922.

(1)
Foremans Row - Seaton Delaval.

(1a)
Cross Row - West Colliery.

(1b)
Quarry Row --Seaton Delaval.



(1c)
Quarry Row - Seaton Delaval.

(2)
Camp Terrace - Seaton Delaval.

(3)
North High Pit Row - Cramlington.

(4)
South High Pit Row - Cramlington.

Note. This page has been inserted in front of Pages 44 and 45 which follow immediately after a Binder's crook.

(5) North Corner - Seaton Delaval.

(6) North Corner - Seaton Delaval.
(Back View in Colliery Yard)

(7)
The Barracks - Cramlington.

(8).
The Barracks - Cramlington.

(9)
The Barracks - Cramlington.

(10)
Ridley Street Klondyke - Cramlington.

(11)
Back Ridley Street - Cramlington.

(12)
Back Hastings Street - Cramlington.

(13)
Mortimer Street - Hartford.

(14)
Mortimer Street - Hartford.

(15)
Mortimer Street - Hartford.
(showing open channel)

(16)
Railway Row - Shankhouse.
(Wooden Houses - Front)

(17)
Railway Row - Shankhouse.
(Wooden Houses - Back)

(18)
Double Row - Hartley.

(19)
Long Row - Hartley. (Back of Houses)

(20)
Double Row - Seaton Delaval.

(21)
Double Row - Seaton Delaval.

(22)
Scott Street (Front) - Hartford.

(23) Hartford.
Earth Closets at back of Scott Street.

(24)
Wheatridge Row - Seaton Delaval.

(25) Wheatridge Row - Seaton Delaval.

(26) Wheatridge Row - Seaton Delaval.
(From middle looking towards Avenue Head.)

(27) Milton Terrace - Seaton Delaval.

(28) Hester Gardens - Seaton Delaval.

(29) St.Michael's Avenue - Seaton Delaval.

(30)
"Irish Opening" - Seaton Delaval.

(31)

"Irish Opening" - Seaton Delaval.

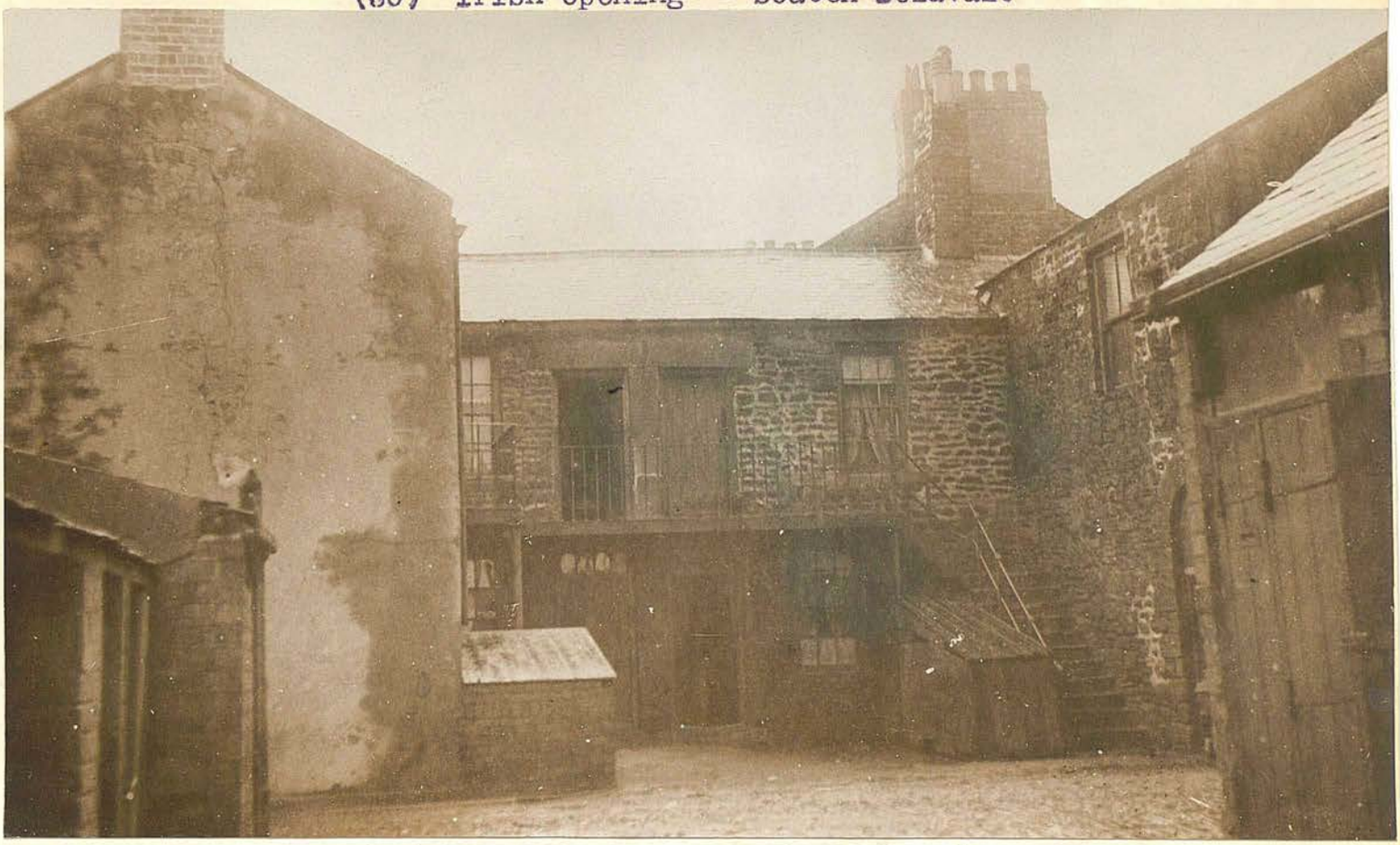
(32)
"Irish Opening" - Seaton Delaval.

(33)
"Irish Opening" - Seaton Delaval.

No.34.
The Freeholds - Cramlington.

No.35.
The Freeholds - Cramlington.

(36) "Irish Opening" - Seaton Delaval.



(37) Hussey Street - Seaton Delaval.

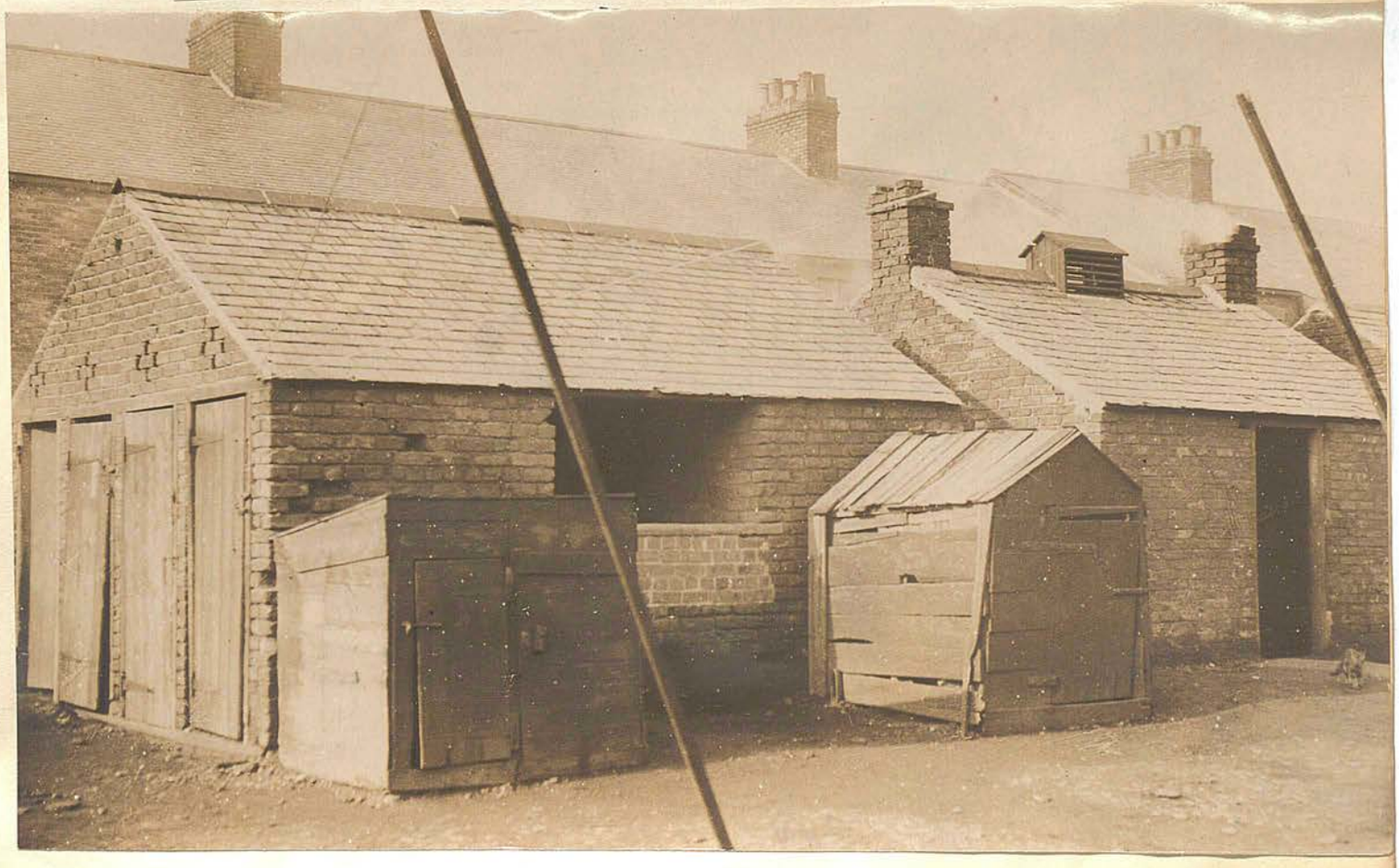
(38) John Street - Seaton Sluice.

(39) Astley Terrace - Seaton Sluice.

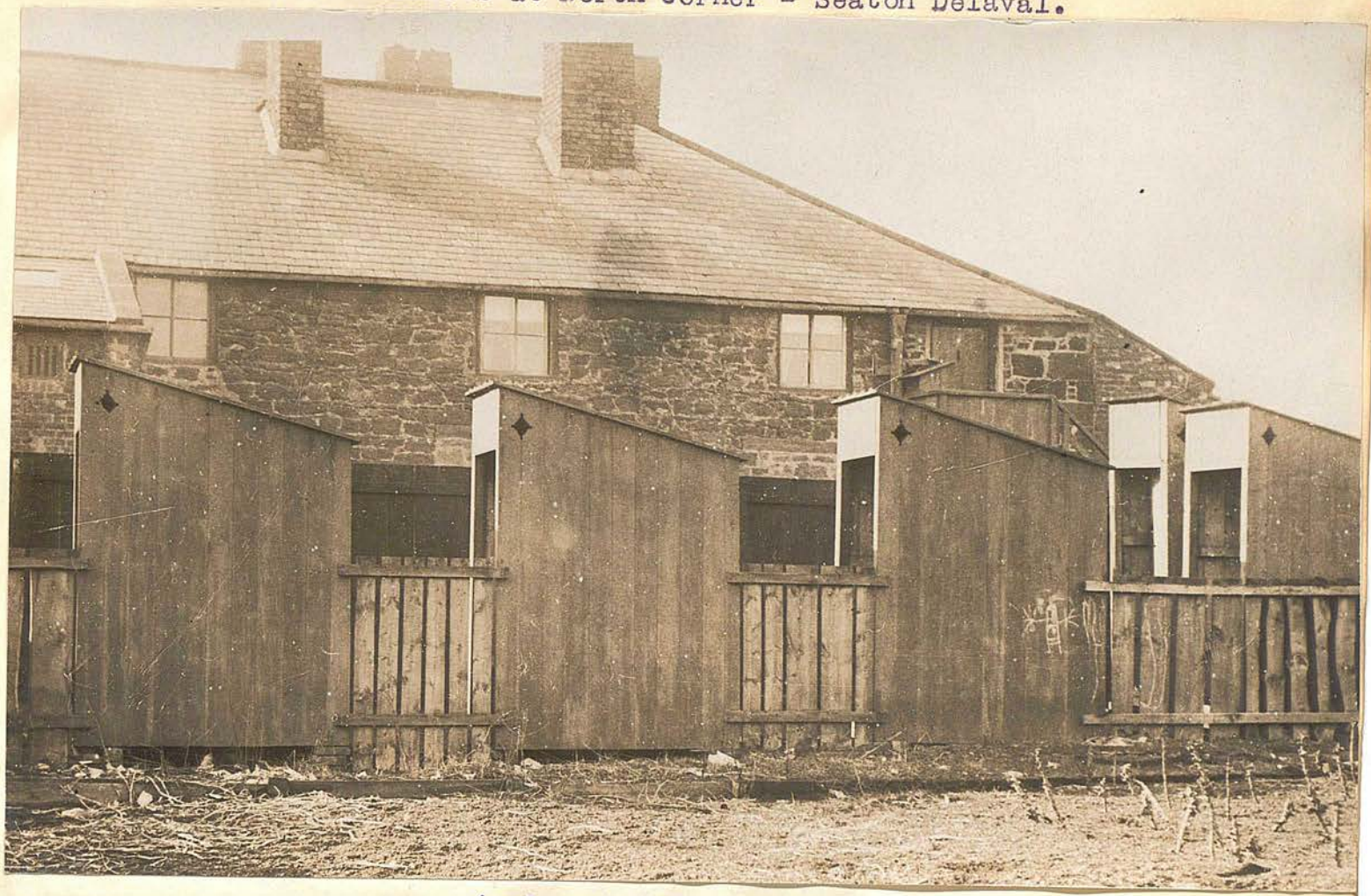
Privy Type No 1.

(40) New Hartley. Privy
Earth Closets & Open Ashpits.

No.41.Privy Type No.2.
Privies & Wash-houses at back of Mortimer St.Hartford.



(42) Privy Type No.3.
Earth Closets at North Corner - Seaton Delaval.



(43) Privy Type No.3.
Earth Closets at North Corner - Seaton Delaval.

(44) Privy Type No.3.
Open Ashpits in Double Row - Seaton Delaval.
showing water tap at side.

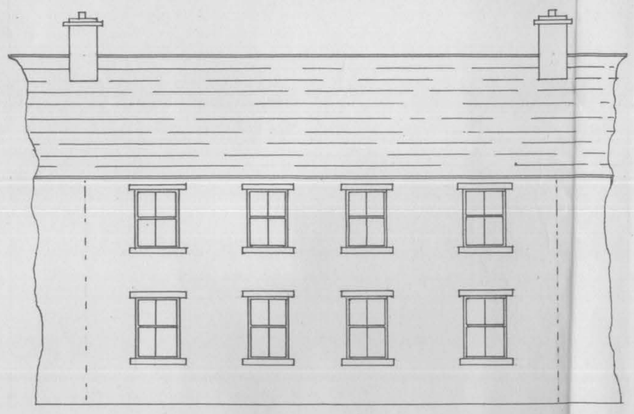
(45) Privy Type No.4.
Percy Row - Seaton Delaval.

(46) New Square - Seghill.

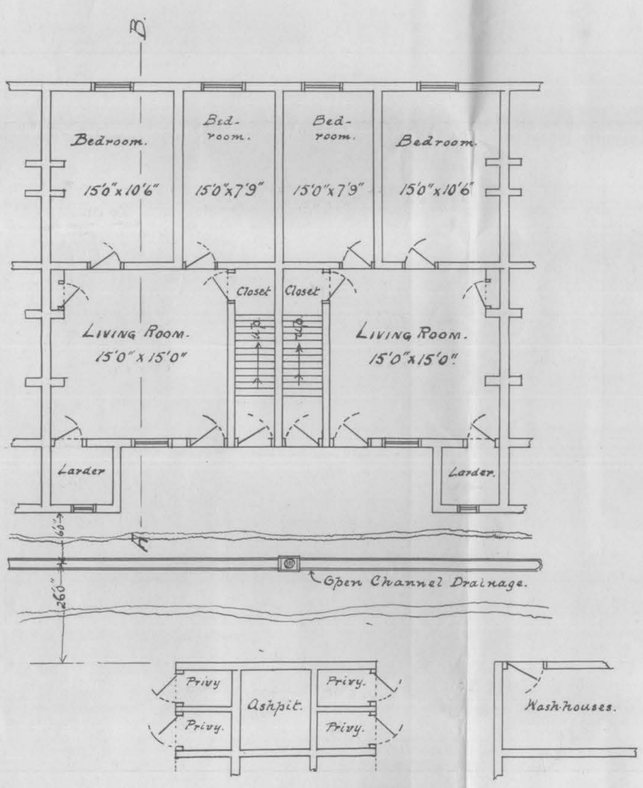
TWO HOUSES of FOUR FLATS.

MORTIMER St, EAST HARTFORD.

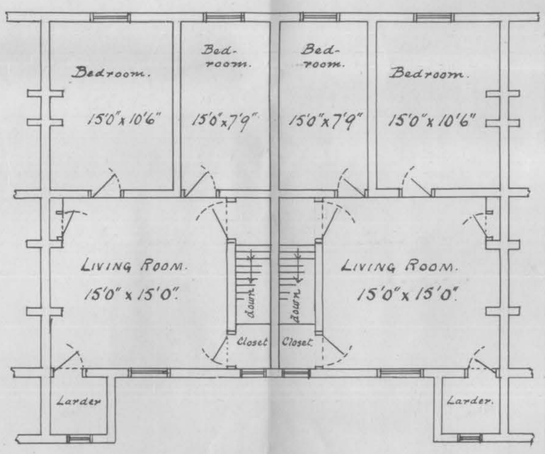
Back Elevation.



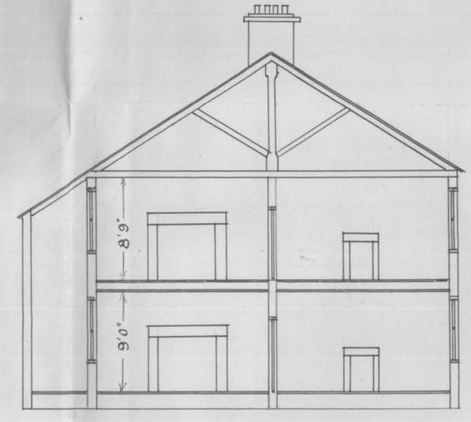
FRONT ELEVATION.



GROUND FLOOR PLAN.



FIRST FLOOR PLAN.



SECTION A-B.

W.H.B. Feb. 1922.

Scale 8 ft to 1 inch.

Plan No 2.

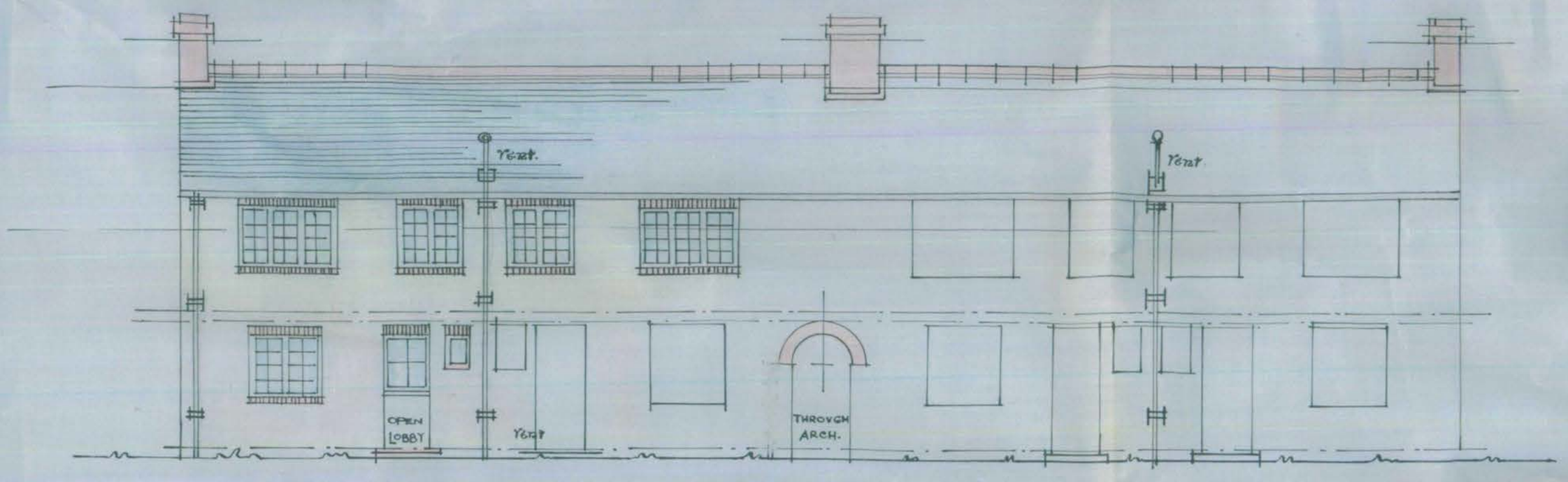
(47) High Row - Percy Main.

(48) Glass House Square -
Seaton Sluice (Back)

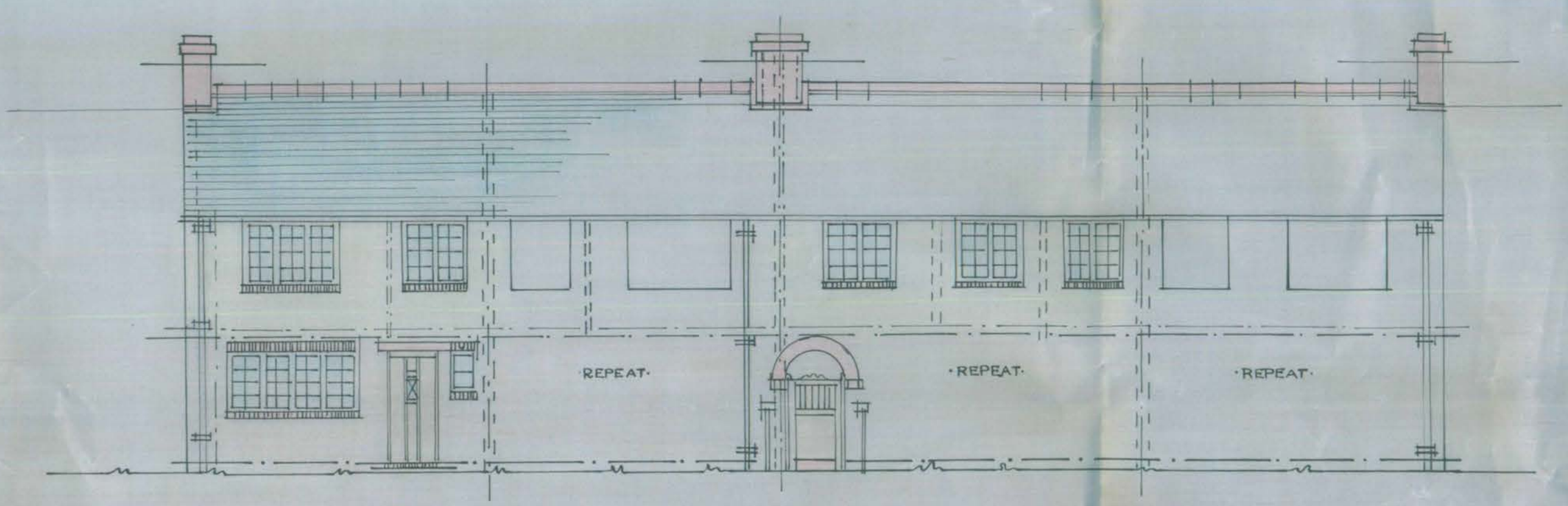
The Seaton Delaval Coal Company.

Type 'A' Cottages

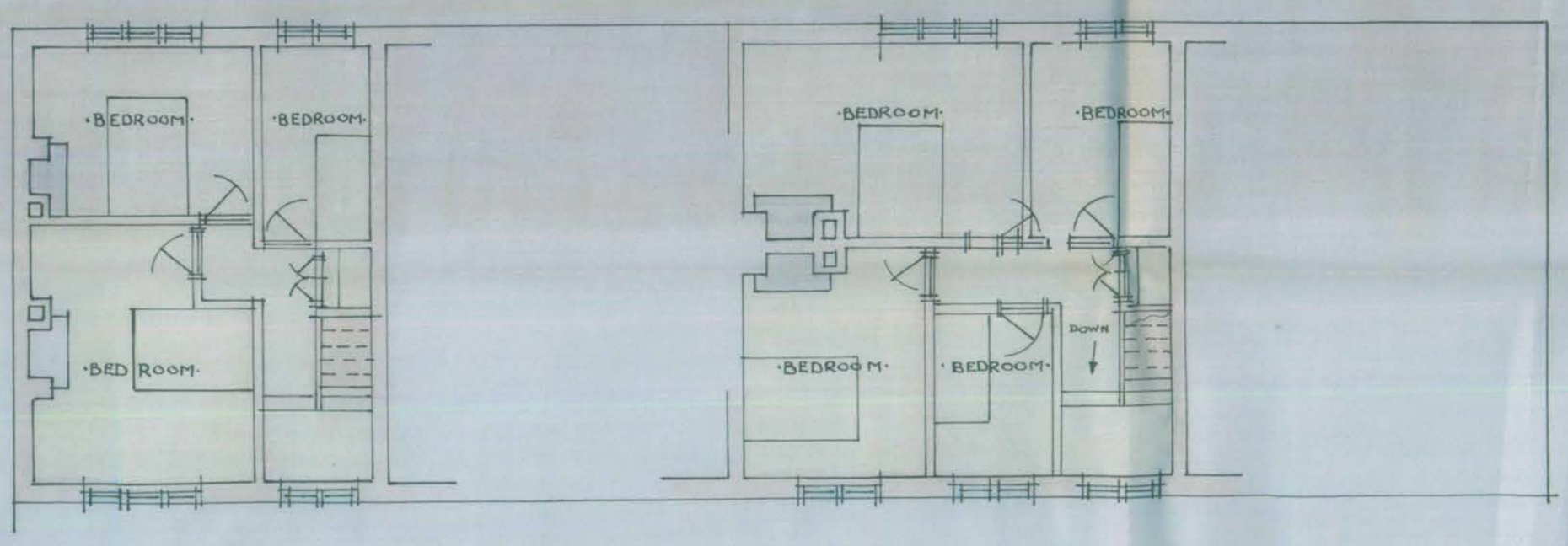
New Hartley



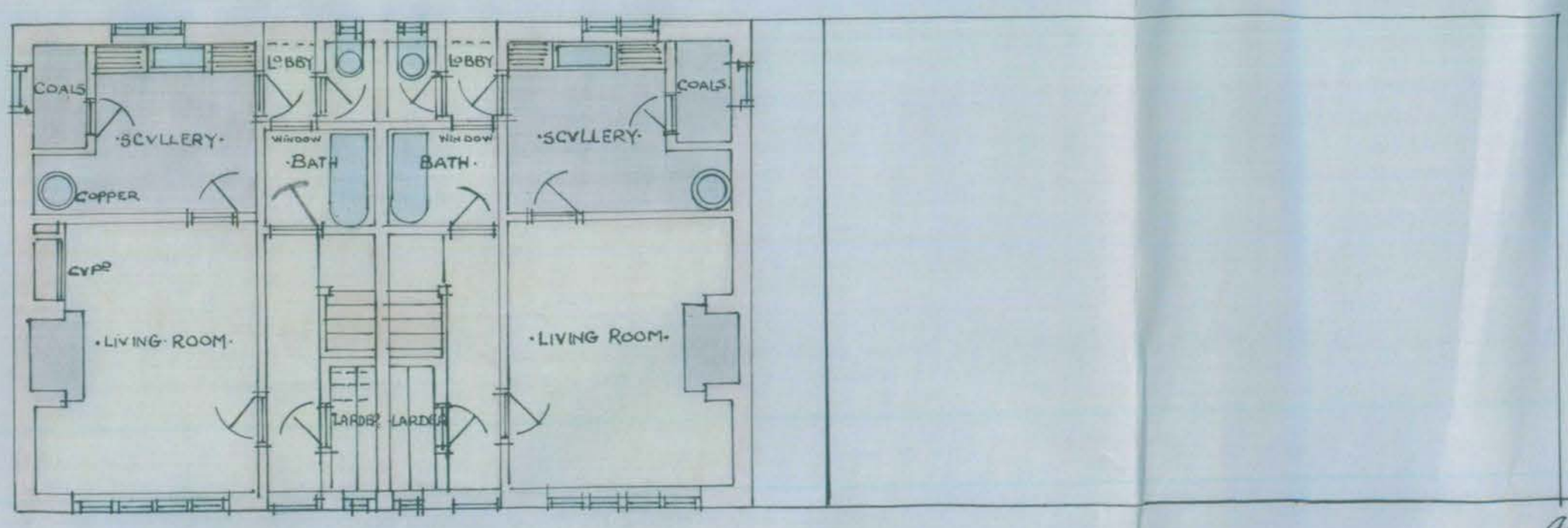
NORTH ELEVATION.



SOUTH ELEVATION



FIRST FLOOR PLAN



Scale 8'-1"

Plan No3.

Anthony Dorin,
Surveyor,
Seaton Delaval.

GROUND FLOOR PLAN

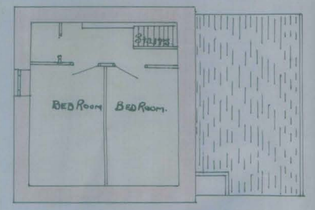
~Proposed Alterations~

~Colliery Houses~

~Wheatridge Row~

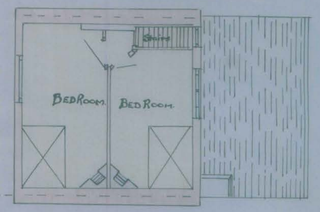
~Seaton Delaval.~

~Before Alterations~



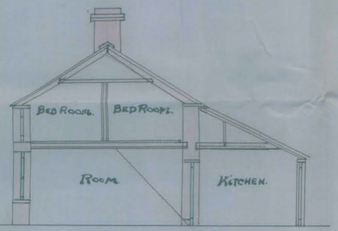
~Chamber Plan~

~After Alterations~

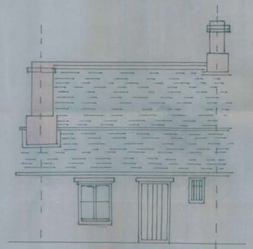


~Chamber Plan~

~Front Elevation~

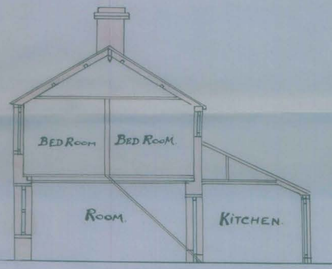


~Section~



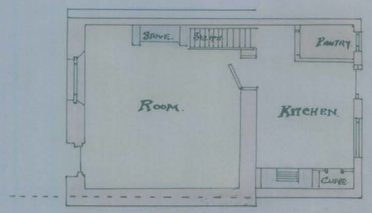
~Back Elevation~

~Front Elevation~

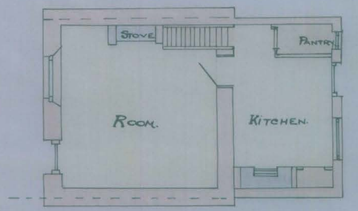


~Section~

~Back Elevation~



~Ground Floor Plan~



~Ground Floor Plan~

~Scale 8'-1'~

Plan No 1

Anthony Dorin, Mining
Engineer & Surveyor
Seaton Delaval

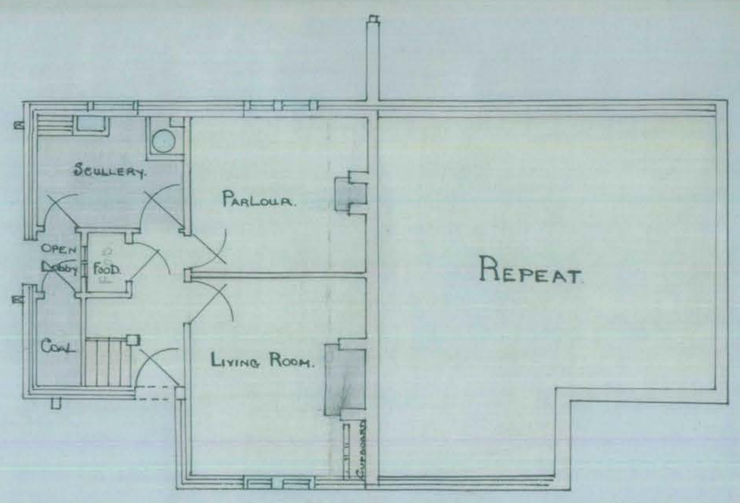
SEATON DELAVAL URBAN DISTRICT COUNCIL.

HOUSING SCHEME SOUTH ASPECT.

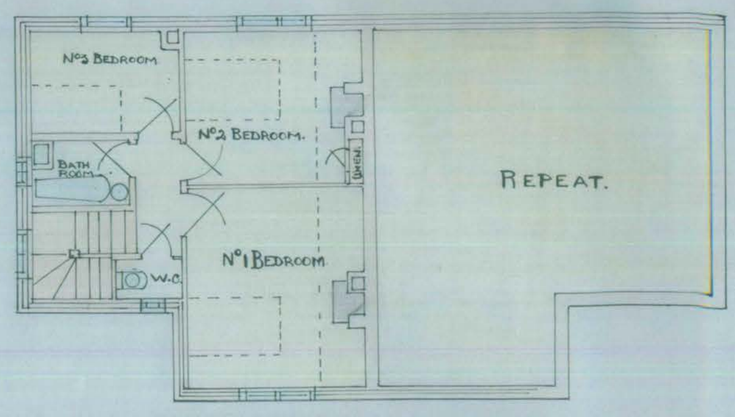
TYPE B.

FRONT ELEVATION.

BACK ELEVATION.



GROUND FLOOR PLAN.



FIRST FLOOR PLAN.

SCALE, 8 FEET = 1 INCH.

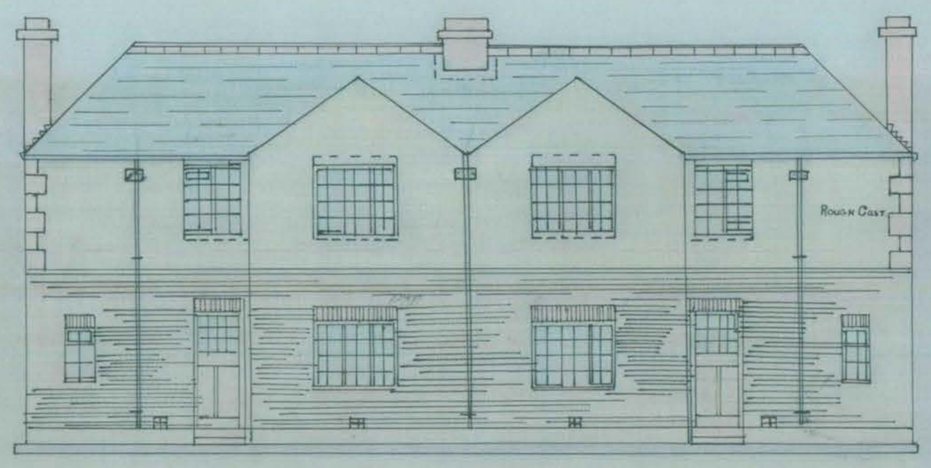
Plan. No 4.

ANTHONY DORIN, M.I.M.T.C.E.
SURVEYOR & ENGINEER
SEATON DELAVAL.

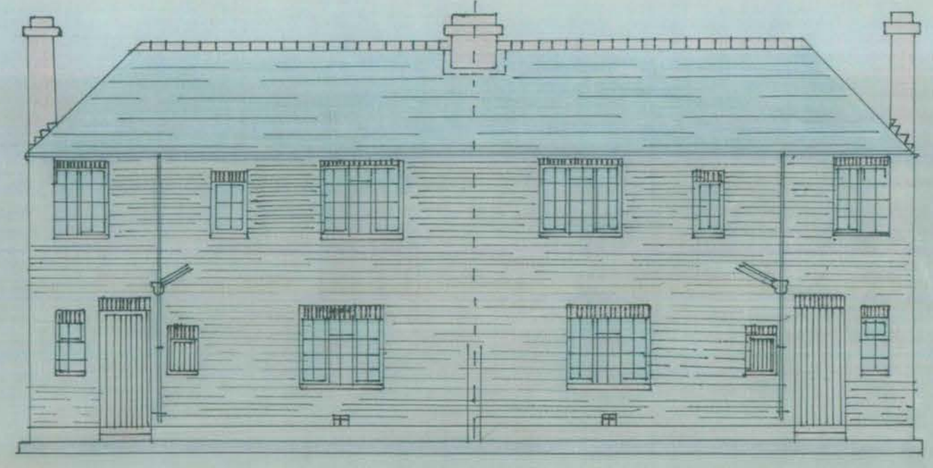
SEATON DELAVAL URBAN DISTRICT COUNCIL.

HOUSING SCHEME NORTH ASPECT.

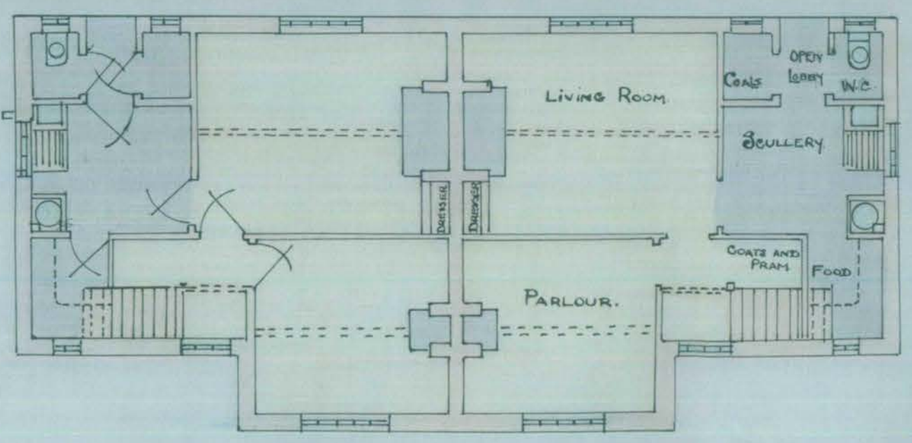
TYPE - B[2].



FRONT ELEVATION.

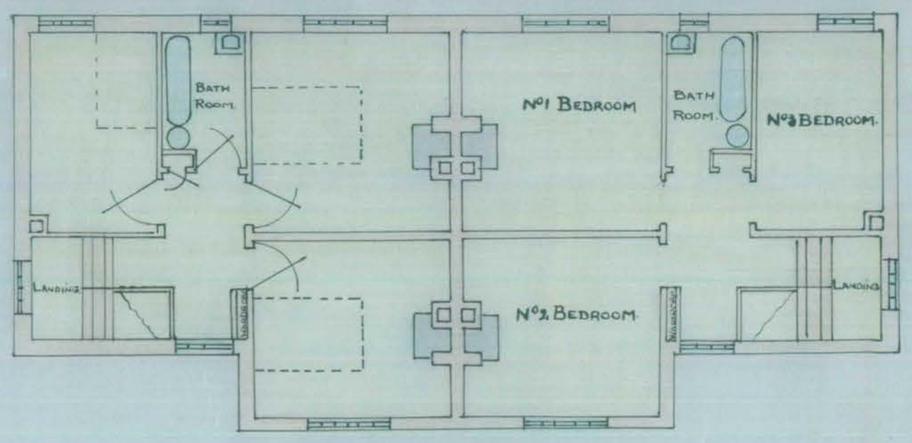


BACK ELEVATION.



GROUND FLOOR PLAN.

SCALE, 1 INCH = 8 FEET.



FIRST FLOOR PLAN.

ANTHONY DORIN, M.I.M. & C.E.
SURVEYOR AND ENGINEER.
SEATON DELAVAL.

Plan No 5.